

Buffalo Coal Mine
Near Moose Creek, on the southwestern
end of Wishbone Hill
Sutton
Matanuska-Susitna Division
Alaska

HAER No. AK-22

HAER
AK,
13-SUTT,
1-

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

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Location: Near Moose Creek, on the southwestern end of Wishbone Hill, in Sutton, Matanuska-Susitna Division, Alaska

Original Owner: Army Coal Commission

Original Use: Coal Production

Present Use: None; closed in 1945

Significance: During the 1940s, the Buffalo Coal Mine played a significant role in the growth and development of south-central Alaska, by supplementing private coal production.

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This HAER mitigation project was made necessary by the conveyance of land belonging to the Federally-owned Alaska Railroad to the State of Alaska.

Situated on the southwestern end of Wishbone Hill, the most dominate feature of the Matanuska Coal Fields, fifty miles northeast of Anchorage, the Buffalo Coal Mine accessed the steeply dipping Premier Group coal beds of Tertiary Age geological formations. Operated briefly by the Army Coal Commission, the Buffalo Coal Mine supplemented private coal production. The mine produced a high-bituminous steam coal suitable for heating and generating power that was relatively free from intrusive material which eliminated the time and expense of the washing process. The extremely faulted ground, which shifted the coal seam as much as thirty feet in some areas, made extraction difficult and expensive. In 1945, six years after the issuance of the prospect permit, the Buffalo Mine closed because expense outweighed demand.¹

In 1939, under the provisions of the 1914 Coal Leasing Act, Frank Colobuffalo and Fred Spach acquired a permit to prospect 960 acres on the Moose Creek drainage.² Joe Colograssi soon replaced Spach and, in December 1940, Joe Danich became Colobuffalo's third successive partner. Six months later, in June 1941, this partnership was incorporated to form the Buffalo Coal Company. In the process of sinking the 300-foot mine shaft, the mine produced eight to ten tons of coal a day.³ In September 1942, when floods destroyed the railroad that was constructed in 1926 to the Moose Creek area mines, the Buffalo Coal Company sold coal directly to truckers, who resold the coal in Anchorage and Palmer, for \$6 to \$6.75 a ton.⁴

Beginning in November 1942, the Territorial Bureau of Mines sponsored an exploratory diamond drilling project at the Buffalo Coal Mine that revealed a large block of coal from 70 feet to 100 feet thick. In the fall of 1943, on the basis of this discovery, the Army Coal Commission took over the Buffalo Coal Mine. Instead of purchasing the mine, the coal commission provided the financing, equipment, engineering advice and management to upgrade the operation to produce 200 tons of coal a day.⁵ The commission used a shaking conveyor to extend the original 300 feet inclined mine shaft to 2000 feet by the addition of 1000 feet to the north on the upper level and 400 feet to the north and south on the lower level.⁶

A 1943 inspection by the U. S. Bureau of Mines, prior to the coal commission taking over the operation of the mine, inventoried the equipment in use at the Buffalo Mine. The inspectors noted that, although the equipment was second-hand and sound, it was inappropriate for working conditions at Buffalo Mine. The equipment included a 15 hp reciprocating steam engine that operated a small DC generator used for lights and charging batteries, a 2-drill compressor, a 80 hp hand-stroked boiler, two jack hammers, a hand forge and anvil, assorted carpentry and blacksmith tools, and one horse. Inspectors also inventoried a 1/2-ton "skip" for inclined haulage ways, a 20 hp single-drum hoist, a shaking screen driven by a 10 hp steam engine which sized the coal, and a 10 hp steam-powered fan unit for ventilation of the mine shaft. The inspectors observed that the headframe of the main shaft was constructed of round timbers. Near the main shaft audit was a 5-ton loading pocket, a 30-ton storage bunker for steam and nut coal, a narrow gauge steam locomotive, and six mine cars.⁷

In 1944, the Army Coal Commission dropped the project and cancelled their contract with the Buffalo Coal Company. The reduced demand for coal and the failure to reach production goals, because of the difficulty of working the faulted ground at the site, were both contributing factors in this decision. In November 1945, the Buffalo Coal Company closed because it could not afford to operate the mine without government assistance.⁸ In 1951, the Bureau of Mines ran a series of washability tests at the Buffalo Mine to determine if it was economically feasible to reopen the mine. The tests proved satisfactory, and Buffalo was to reopen in 1952 with funds provided by the Reconstruction Finance Corporation. These funds were frozen in 1953, and the mine never resumed operation.⁹

In 1984, the State of Alaska Department of Natural Resources, under the provisions of the Surface Mining Control and Reclamation Act of 1977, undertook the reclamation of the Buffalo Mine site.¹⁰ At that time, the mine site was littered with deteriorating mining equipment, mine structures, and assorted debris that had been left when the mine closed. Just north of the access road to the Buffalo Mine were the collapsed remains of the audit for the main mine shaft and the check-out building. The loading ramp, constructed of 12x12-inch and 4x4-inch timbers and 2x10-inch boards covered with sheet metal, was situated 100 feet west of the audit. The collapsed remains of the powder magazine were found 250 feet west of the loading ramp. The remains of foundation for the coal hopper and the screening house were discovered on the ridge above the main shaft. The hopper, constructed of 12x12-inch timbers and 2x16-inch boards covered with sheet metal, was found in the woods to the west of the foundation. No evidence was found of the conveyor belt or bucket line that transported the coal from the hopper to the screening house.¹¹

The remains of the power plant building were found collapsed on an irregular shaped concrete pad, measuring approximately 76x40-inch, with a 10x10x2-foot concrete motor mount in the generator room. The boiler room contained two steel boilers, 23 feet long and 5 feet in diameter, supported by four 10x2-foot pedestals 6 inches high and two logs 3x3x8-feet long, a 3.5x8 foot pressure release tank, and a piston drive steam engine. The walls of the boiler room were constructed of 2x6-inch studs on 24-inch centers 14 feet high, while the walls of the rest of the structure measured 8 feet high. A 7x7x7-foot foundation for a cooling tower or smoke stack was discovered between the boiler room and Moose Creek. A 26x5-foot coal bin, with a ramp constructed of 2x8-inch boards and supported by 4x8-inch boards, was situated east of the boilers. A 10x12-foot shed, constructed of 2x4-inch studs on 24-inch centers, covered by 1x8-inch boards, and topped by a corrugated tin roof, was located near the remains of the power plant. A rotting foundation of 2x8-inch joists and 2x8-inch flooring, and the partially intact remains of a 17x17x8-foot high structure constructed of 14-inch logs, were found in the woods near the shed. One hundred feet east of the power plant, the one-story mess hall, constructed of 2x4-inch studs on 24-inch centers, had collapsed except for the 15x2x2-foot chimney on a 'T' shaped foundation that measured 60x18 feet. The partially-standing remains of several wood frame quonset huts with rotted wood floors were located northeast of the mess hall. The 2x6-inch

frame structures covered with fiber board measured 16x36x10 feet high. Discovered west of the mess hall, rather rusted but still intact, was a 4x3-foot diameter shaft bucket, constructed of 1/2-inch steel that had been used to remove the rock from the mine shaft after blasting.¹²

The 36x13 feet, wood frame engineers' office, with fiber board siding and flooring, was found still standing in reasonable condition. Situated behind the engineers' office were the collapsed remains of a 18x14-foot frame house, constructed of 2x4-inch studs with 1x8-inch boards on 1x8-inch joists for flooring. The collapsed loading chute, measuring 40x6x10 feet high and constructed of 4x8-inch timbers and 2x8-inch boards lined with tin, was discovered across the road from the engineers' office. The steel boiler used to generate steam for the compressor and other mine equipment was discovered on an island in Moose Creek, 400 feet west of the loading chute. Although separated from its foundation, the steel boiler was intact. A 6x6x6-foot fire box, constructed of 1/4-inch steel plate with an 18 feet long, 6-foot diameter sheet metal tube containing one hundred 2-inch diameter tubes extending from it, was attached to the boiler. The remains of the powder magazine were located 250 feet west of the chute. Discovered 100 feet west of the former powder magazine were the remains of eight wheel-less mine cars in various stages of decay. The 10x8x4-foot high mine cars had been constructed of wood on steel frames.¹³

Located behind the engineers' office were the collapsed remains of the hoist house, containing an electric motor, a gear-driven four-foot diameter single drum hoist with cable and 5-foot diameter break drum, drive gears, break levers and other controls. The 8-foot high walls, constructed of 2x4-inch studs and covered with 1x8-inch boards, were collapsed on the 11x8x4-foot concrete foundation.¹⁴ The drum hoist from the Buffalo Mine was the kind that was typically used in small mining operations to pull the loaded "skip" up the mine shaft. The brake drum was surrounded by sectional wooden brake shoes, 6-1/2 inches wide and 1-1/2 inches thick, made of poplar, elm, oak or willow that was free of knots or other defects to avoid splitting under pressure and treated with alum to prevent charring and to reduce the threat of fire. The brakes were applied to the drum by falling dead weights suspended from the brake arm. When the brake was not in use, the weights were lifted and supported by a steam or compressed air driven piston. To apply the brake, the steam was exhausted.¹⁵

In the process of reclaiming the mine site, all these features were removed or made inaccessible. The mine shafts were filled with loose bricks, cement, steel and other rock. The mine buckets, mine cars, and boilers were transported to the Palmer landfill. The asbestos that covered the boilers was bagged for disposal and the remaining wood from the site was burned on location. The hoist drum and brake unit were transported to Sutton, where they are part of the Sutton Outdoor Mining Museum. The mine site was replanted with white spruce and paper birch that typified the vegetation of the area.¹⁶

FOOTNOTES

- ¹ For further information on this subject, see Moose Creek District of the Matanuska Valley Coal Fields, by G. A. Apell, U. S. Bureau of Mines Report of Investigations #3784, Washington, D. C., 1944; Mining and Exploration in 1945 in the Wishbone Hill Coal District, by F. F. Barnes (from Coal Investigations in South-Central Alaska, 1944-46, by F. F. Barnes and others), U. S. Geological Survey Bulletin #963-E, Washington, D. C., 1951; and Report of the Commissioner of Mines for the Territory of Alaska, by B. D. Stewart, Department of Mines, Juneau, Alaska, 1944.
- ² Moose Creek District of the Matanuska Valley Coal Fields, Alaska, by G. A. Apell, U. S. Bureau of Mines Report of Investigations #3784, Washington, D. C., 1944, p. 8.
- ³ Ibid, p. 26.
- ⁴ Ibid, p. 23.
- ⁵ Report of the Commissioner of Mines for the Territory of Alaska, by B. D. Stewart, Department of Mines, Juneau, Alaska, 1944, p. 30.
- ⁶ Buffalo Mine, Reclamation Plan and Environmental Impact Assessment, by Woodard-Clyde Consultants, State of Alaska, Department of Natural Resources, Division of Natural Resources, Division of Mining, Job #21428, 1984, p. 2/10.
- ⁷ Moose Creek District of the Matanuska Valley Coal Fields, Alaska, p. 26.
- ⁸ Mining and Exploration in 1945 in the Wishbone Hill Coal District, Matanuska Valley, Alaska, p. 194.
- ⁹ Report of the Commissioner of Mines for the Territory of Alaska, by Philip R. Holdsworth, Department of Mines, Juneau, Alaska, 1954, p. 44.
- ¹⁰ Buffalo Mine, Reclamation Plan and Environmental Impact Assessment, by Woodard-Clyde Consultants, State of Alaska, Department of Natural Resources, Division of Mining, Job #21428, 1984.
- ¹¹ Ibid, p. 2/15.
- ¹² Ibid, p. 2/11 - 2/15.
- ¹³ Ibid, p. 2/13 - 2/18.
- ¹⁴ Ibid, p. 2/14.

- 15 Winding and Transportation in Mines, by John Sinclair, London, Sir Issac Pitman & Sons, Ltd., 1959, p. 60.
- 16 Buffalo Mine, Reclamation Plan and Environmental Impact Assessment, p. 4/9.

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